Identification of *Escherichia coli* Bacterial Contamination in Red Snapper (*Lutjanus sp*) Tested at the Marine and Fisheries Product Quality Control and Supervision Agency Surabaya I

Aulia Nur Fadilla
D3 Study Program of Pharmaceutical and Food Analysis
Poltekkes Kemenkes Malang
Email: p17120224085_aulia@poltekkes-malang.ac.id

ABSTRACK

Background: *Indonesia has abundant marine resources, one of which is red snapper (Lutjanus sp) which has high economic value and is widely exported and imported. However, this fish is easily damaged so it is susceptible to bacterial growth contamination including Escherichia coli. Escherichia coli is a pathogenic bacteria that has the potential to cause digestive disorders and food poisoning. Therefore, it is necessary to test for Escherichia coli bacterial contamination in fishery products, one of which is red snapper, to ensure the quality of the food.* ***Objectives:*** *This study aims to identify the presence of E. coli in red snapper samples tested at the Marine and Fisheries Product Quality Control and Supervision Agency.* ***Research Method:*** *The method used is the Most Probable Number Method (APM) according to SNI 2332.1-2015 standards concerning Microbiological Test Methods - Part 1: Determination of coliforms and Escherichia coli in fishery products. The APM method is used to detect and estimate the number of bacteria in a liquid or solid sample. The APM stage includes a prediction test, confirmation test, and biochemical test. Biochemical tests were carried out in the form of IMVIC tests (Indol, Methyl Red, Voges-Proskauer, Citrate) and lactose gas production tests.* ***Result:*** *A total of 8 samples were tested consisting of fish fillets and whole fresh fish. The results showed that 1 sample of fish fillet was confirmed to contain E. coli biotype 1 according to the interpretation table of biochemical results in SNI 2332.1-2015, namely positive results for indole, MR, and lactose gas tests and negative results for VP and citrate tests. The quality requirements for Escherichia coli in fishery products are set at an APM value of <3 APM/gram. When compared to the food safety standard SNI 2696-2013 concerning Frozen Fish Fillets with the APM value limit obtained exceeding the specified limit.* ***Conclusions:*** *From the test results, it can be concluded that from 8 red snapper samples, 6 samples were detected positive for coliform and 1 sample was declared positive for Escherichia coli which was caused by poor sanitation in the processing process.*

Keywords: *Red snapper, Escherichia coli, APM method, Biochemical test*